

Solve the equation. Check with calculator or your brain.

1. $(x + 14)(x - 3) = 0$

$x + 14 = 0$ $x - 3 = 0$

$x = -14$ $x = 3$

3. $(p + 15)(p + 24) = 0$

$p + 15 = 0$ $p + 24 = 0$

$p = -15$ $p = -24$

5. $(d + 8)(d - \frac{1}{2}) = 0$

$d + 8 = 0$ $d - \frac{1}{2} = 0$
 $d = -8$ $d = \frac{1}{2}$

9. $(6b - 4)(b - 8) = 0$

$6b - 4 = 0$ $b - 8 = 0$

$\frac{6b - 4}{+4 \quad +4}$ $b = 8$
 $\frac{6b = 4}{6 \quad 6}$
 $b = \frac{2}{3}$ ← reduce

12. $(4x + 5)(4x - 5) = 0$

$4x + 5 = 0$
 $-5 \quad -5$

$\frac{4x = -5}{4 \quad 4}$ $x = -\frac{5}{4}$

$4x - 5 = 0$
 $+5 \quad +5$
 $\frac{4x = 5}{4 \quad 4}$

$x = \frac{5}{4}$

Factor out the greatest common monomial factor.

13. $10x - 10y$

$10(x - y)$

14. $\frac{8x^2 + 20y}{4 \quad 4}$

$4(2x^2 + 5y)$

15. $\frac{18a^2 - 6b}{6 \quad 6}$

$6(3a^2 - b)$

→ CHECK (mentally multiply).

Al. IN FACTORED FORM

Solve the equation. Remember to factor first

22. $m^2 - 10m = 0$

$m(m - 10) = 0$

$m = 0$ $m - 10 = 0$
 $m = 10$

C: $0 = 0$ ✓ C: $100 - 100 = 0$
 $0 = 0$ ✓

24. $5w^2 - 5w = 0$

$5w(w - 1) = 0$

$5w = 0$ $w - 1 = 0$

$w = 0$ $w = 1$

28. $6n^2 - 15n = 0$

$3n(2n - 5) = 0$

$3n = 0$ $2n - 5 = 0$
 $n = 0$ $\frac{+5 \quad +5}{2 \quad 2}$
 $n = \frac{5}{2}$

29. $-8y^2 - 10y = 0$

$\frac{-2y \quad -2y}{-2y(4y + 5) = 0}$

$-2y = 0$ $4y + 5 = 0$
 $y = 0$ $y = -\frac{5}{4}$

33. $-24y^2 = 9y$

$\frac{+24y^2 \quad +24y^2}{0 = \frac{24y^2 + 9y}{3y \quad 3y}}$

$3y(8y + 3) = 0$
 $3y = 0$ $8y + 3 = 0$
 $y = 0$ $y = -\frac{3}{8}$